The Design and Development of a web - based Knowledge management system model for the University Libraries of Kerala

SYNOPSIS

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1 . Introduction

In a dynamic and changing world of organizations, libraries and information centres occupy a prominent place in the present society. These changes come through a wide array of sources such as cultural, social, economic and technological perspectives. The terms like information society, knowledge society etc are very much grounded on the concept of the availability of the generation and application of information and knowledge in a variety of formats.

Libraries and information centres, being the building blocks of knowledge capture, generation and distribution centres , are on the verge of drastic alterations. Knowledge management is a technique which aims at leveraging a number of facets together to innovate and redesign library and information centres. Knowledge management is the explicit and systematic management of vital knowledge of an organization and it includes capturing, organizing and disseminating it within an organization.

According to Hibbard (1997), ”Knowledge management is the process of gathering a firm’s collective expertise whereever it resides in databases, on paper, or in people’s heads -and distributing it to where it can help produce the biggest payoff.”

In the words of O’Dell et al (2000), ”Knowledge management is a framework, a management mind-set that includes building on past experiences (libraries, databanks, smart people) and creating new vehicles for exchanging knowledge” (knowledge-enabled intranet sites, communities of practice, networks).

According to Blair (2001), ”Knowledge management is a discipline of identifying, capturing, retrieving, sharing and evaluating an enterprise’s information assets”.

In short, Knowledge management is the deliberate and systematic coordination of an organization’s people, technology, processes and organizational structure in order to add value through reuse and innovation.This coordination is achieved through creating, sharing and applying knowledge as well as through feeding the valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning.

2 . Background of the Study

Libraries have been involved with collecting, organizing and disseminating recorded information which KM refers today as explicit knowledge. In KM, people, their skills and expertise are the most

important asset of an organization. Organizations need to capture the tacit intuitions and know-how that knowledge workers acquire through years of experience and practice, so that their knowledge can be utilized at the organizational level. This will avoid risking a loss of knowledge when people leave the organization. In KM, people are not only knowledge users but also knowledge resources and knowledge generators. Libraries have also been involved in the human capital but it is at different levels in comparison with KM. The approach towards people in libraries has mostly been one of seeing pople as knowledge users. A different approach to people has led to focus on a different kind of knowledge. The focus is largely on explicit knowledge, which is defined as knowledge that can be codified and therefore more easily communicated and shared notably through IT systems. The approaches that deal with the application of KM in the LIS environment are relatively new and are mainly preceptual and general in nature, rather than being research based. Although there is recognition that knowledge is a key business asset, libraries are still in the early stage of the understanding of the potential implications of KM.

Knowledge management practices and techniques are now widely adopted in public services sectors to increase the effectiveness and sustainability of the organization and to make them learning organizations. Academic libraries are the constituents of their parent organization and whatever affects them also affects the libraries. Like all other organizations, academic libraries and information centres also face unprecedented challenges in today's competitive world and hence new techniques are needed to meet this challenge. Some of the issues that the academic libraries face are multiple formats of information due to the rapid growth of informaton communication technologies, changing user requirements such as user friendly ICT oriented facilities, organizational structures such as flat, flexible and less rigid organizations where more innovation takes place. In other words, library organizations should be more client centred, redesign the work process and restructure them in order to support frontline performance. It should be more sharing , team based and strategically collaborative.

It is a fact that the academic librarians can no longer meet the information needs of the user community through the traditional avenue of simply adding to their collections. On the contrary, they need to understand the information and knowledge needs of the users to map the internal and external knowledge that would assist them in increasing their efficiency. Their knowldege management process involves the creation, capturing, sharing and utilization of knowledge.

The process of knowledge creation involves the knowledge of the library's operation, the knowldge of library users and their needs, knowldge of the library collection, library facilities and the technologies available. All these are put together and synthesized to create new knowledge for the introduction of new systems and services.

The loss of valuable experts due to dismissals, redundancies, retirements and death has to be compensated by capturing and identifying the expertise and skills of the staff. The formal procss of capturing knowledge may include collating internal profiles of academic librarians and also standardising routine information update reports. The user information needs may also be captured and placed within easy reach. Some of the methods to acquire knowledge may be :

- Attending training programmes,conferences,seminars and workshops
- Establishing knowldege links or networking with other libraries ,institutions and industries
- subscribing to listservs and online or virtual communities of practice
- Buying knowldege products or resources in the format of manuals,blue prints,reports and research data.

Much of the tacit knowledge that reside within the people such as experts are difficult to be shared. Sharing of this know-how and skill will eliminate or reduce duplication of efforts and form the basis for problem solving and decision making. Techniques such as knowledge mapping, identification and sharing the skills and comptencies may be used for this purpose. The importance of knowledge sharing should be based on the capability to identify, integrate and acquire external knowledge. It includes knowledge denoting library practices, operational capabilities and devising mechanisms to share knowledge. Some of the areas where knowledge management can be applied are:

- Setting up and maintaining a database of topics being proposed for publication and selected for publication.This enables to search and retrieve topics as well as to act as a planning tool for the organization
- Maintaining internal archives
- Building a database of author publications of the organization
- Corporate blogs and engaging users in theblogs, maintaining institutional repositories, intranets and database of Frequently Asked Questions

At present , a few libraries have started to organize their libraries in this direction. But in the absense of clearcut policy guidelines, they are done in a haphazard manner. This very fact points to the need for a thorough analysis of the tools and techniques of knowledge management and their applications in libraries. The study aims at the creation of a web-based Knowledge management system that will support the creation, organization, storage, dissemination and utilization of the institution's digital knowledge assets.

3 . Previous studies

In a report of the results of a case study conducted by Pearl M Maponya (2004) in the University of Natal, Pietermaritzburg, South Africa in 2004, it was found that libraries could add value to their services by engaging knowledge management practices. In a similar study, by Maryam Sarrafzadah, Bill Martin and Afsanch Hazeri (2009) show that the LIS communicty exhibits a positive attitude towards introducing knowledge management to libraries closer to their parent organization but also because it might help them to survive in an increasingly challenging environment.

Yet another study by Kevin R Parker, Philip s.Nilse and Kay A. Flowers (2005), show that libraries as knowledge management centres hold promise to level the playing field. Libraries benefit because this reaffirms their relevance in a digital age in which so much information is freely available to patrons. In an article titled 'The phenomenon of knowledge management: what does it mean to the information profession' by Marianne Broadbent (1998) argues that knowledge management need to be harnessed in 2 directions: towards specific organizational objectives that provide greater value to customers and clients; and the way in which library and information services are themselves managed.

The study, entitled 'The implication of knowledge management for library and information professions, by Maryam Saffafzadeh (2005) states that there is a need to equip graduates with competencies in management and business.

4 . Titlle of the study

The present study is entitled 'The design and development of a web-based Knowledge management system model for the University libraries of Kerala.'

5 . Definition of key terms

Design and development: According to OED (2006) design means 'a plan or drawing produced to show the look and function of working of a building, garment, or other object before it is built or made'.

Development refers to that act or an instance of developing, the process of being developed or a stage of growth or advancement. For the purpose of the present study, design and development involves the creation and advancement of a plan to meet the objective.

Web-based Knowledge management system: This means that the system or components made use of for the practice of knowledge management based on the internet or world wide web.

Model: According to the Merriam-Webster's Online Dictionary, 'model refers to the miniature representation of something or a pattern of something to be made.'

University Libraries of Kerala: This refers to all the University library systems in the state of Kerala made in order to acquire, process and disseminate information to its user community. A University library system is like any other system or a set of connected parts. The present study involves Kerala University Library, M.G.University Library, Cochin University of Science and Technology Library, and Calicut University Library.

6 . Objectives of the Study

The objectives of the study are:

1. To study knowledge management practices followed in the University Libraries at the global level

2. To identify the perceptions of Library and Information Science (LIS) community on potential benefits for libraries by the application of knowledge management practices

3. To determine the degree of involvement of academic librarians in knowledge management initiatives in the total organizational set up of the Universities

4. To identify the initiatives of the LIS community to facilitate the creation and transfer of knowledge in the University Libraries of Kerala

5. To analyse the information and knowledge needs of academic community (teachers, researchers and students) and to increase the impact of the creation of services and products for the University Libraries

6. To examine the coverage of knowledge management techniques in the syllabi of LIS curriculum of the library schools in India

7. To determine the skills and expertise needed by the academic librarians to participate effectively in KM activities

8. To explore the areas of application of KM practices in the University Libraries

9. To design KM system model specially suited to the University Libraries of Kerala

10. To offer suggestions for the development and maintanance of the KM model

7. Methodology

The study employs descriptive research design utilising the cae study approach. The potential population for the study comprises of sample survey of academic librarians among a selected University Libraries of Kerala and library users including the public. The study proposes to use questionnaires, interviews and observation methods to collect data. An approximation of the number of staff and membership who constitute the population in each of the University Libraries during the year 2006 are given in Table no.1.

Table No.1

Membership of University Libraries (2006)

Category	KUL	CUL	CUSATL	MGUL
Students	7528	197	202	-
Postgraduates	3262	1700	1399	1552
Teachers	1723	205	217	590
Researchers	817	236	372	332
Professional Staff	91	50	44	47
Staff	325	1042	546	636
Public	3326	2636	81	-
Institutional	28	-	9	-
Others	415	32	-	-
Total	**17515**	**6098**	**2870**	**3157**

Data would be collected from both the categories by questionnaire and interview.

Questionnaire: Questionnaires would be sent to all the professional staff incorporating questions to elicit information aimed at meeting the objectives.

A 20% sample of the members belonging to all categories would also be approached with a separate questionnaire.

Interview: All University librarians or Deputy Librarians in- charge, Deputy Librarians ad selected Assistant Librarians would be interviewed to elicit their views on KM applications.

Observation: Non-participant observation of the techniques of imparting information services and verification of records would be done.

8 . Hypotheses

The study proceeds with the following assumptions:

1. Apart from the introduction of IT gadgets, the University libraries in Kerala have not attempted any re-orientation of the services.

2. The staff members of the University Libraries are not given any orientation to work in the digital era.

3. The professional staff are reluctant to adopt KM practices in libraries

4. Massive training programmes are needed to inculcate the spirit of KM techniques in library professionals

9 . Relevance of the Study

Many Universities seek creative and innovative ways to enhance their capacity in knowledge creation, access and usability. As information transition is away from printed works, Universities are enhancing their digital collections and repositories, creating 'commons' to synergize support for technology and information access and forging partnerships between library, information and technology professionals.

Academic libraries are an integral part of the University and its organizational culture. The changes that affect in higher education affects the Universities and the University Library Systems. The challenges that the Universities face may be financial pressures, increasing public scrutiny and

accountability, rapidly evolving technologies, changing staff roles, diverse staff and student demographics, competing values and a rapidly changing world. The Universities are not stand alone institutions but are a part of the society through engaging in teaching, research and community service. Since University Libraries are the nerve centre of the University's teaching and research activities, they need to be reoriented, restructured to provide competitiveness, innovationa and efficiency.

In an attempt to gain organizational success, KM is increasingly recognized as a key factor. As it is applicable to a wide variety of organizations, there would be potential benefits in its application within the libraries, in parent organizations and in the communities they serve. The major objective of a library is to provide information to the user. It has increasingly been observed that libraries are being left behind in competition with other information supliers. KM is therefore, seen as a survival factor for libraries helping them to respond to the challenges LIS profession faces in a discontinuously changing environment. Academic libraries are also often neglected due to the lack of funding and KM would help them survive.

Similarly, librarians have frequently been accused of being insufficiently aligned with the goals of their organizations. The ultimate aim of KM is that of achieving the organization's mission. Therefore, all components of an organization including librarians must participate in ensuring that the contribution of KM to the realization of the organizational mission. Apart from this, KM gives libaries an opportunity to collaborate with other units in the organization and to become more integrated into corporate operations and enhance their overall visibility. Thus, a study aimed at examining the existing KM practices in University Libraries and exploring ways and means of applying KM techniqes in rendering the services so as to design a KM system would go a long way in making the libraries timely and relevant.

Development of a portal based Knowledge management system will enable the libraries to offer services lilke OPAC, webliography, e-reference, CAS, library orientation and personalized instruction. In addition, it provides a venue for sharing concerns/problems, group interaction,sharing of creativity and best practices and mentoring.

10 . Scope and limitations of the study

There are at present 9 Universities in Kerala. They are University of Kerala, Mahatma Gandhi University, Cochin University of Science and Technology, Sree Sankara University of Sanscrit, Kerala Agricultural University, Calicut University, Kannur University, Central University of Kerala, Kerala University of Medical and Allied Health Sciences. However, for the present study, only 6 University libraries have been selected because some of the Universities do not have well established libraries. The University libraries that have been selected for the study are Kerala University Library, M.G.University library, Cochin University Library, Kerala Agricultural University Library, Sree Sankara University Library, and Calicut University Library.

11 . Organization of the Thesis

Chapter 1-introduction

Chapter 2-Review of Literature

Chapter 3-Methodology

Chapter 4-Knowledge Management in Academic Libraries

Chapter 5-Perception of the LIS profession and Users

Chapter 6-Design of a KM system for the University Libraries of Kerala

Chapter 7-Conspectus

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